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the second portion, which, in like manner, it draws in, and this is repeated at the end of every yard until the velvet is finished; the flap J being kept shut preserves the velvet from dust or accident.

By coating the breast-roll in this manner with glass-paper, Mr. M'Grath was able to try the experiment without spoiling the roller for other purposes; but he is so well satisfied with his success, that he intends having a new roll sized and covered direct with sifted glass, instead of using glass-paper.

No. II.

LOOM FOR WEAVING WICKER CHAIR-
BOTTOMS.

The SILVER ISIS MEDAL and Six Guineas were presented to Messrs. D. and H. POTTS, 5 Selby Street West, Waterloo Town, Bethnal Green, and 1 Samuel Street, Booth Street, Spitalfields, for their Loom for Weaving Wicker Chair-bottoms; a Model of which has been placed in the Society's Repository.

SIR,

May 12th, 1840.

BEING desirous of laying before the Society of Arts an improved method of manufacturing wicker-seats for chairs by the weaving process, which enables us to produce every variety of pattern which taste and elegance can suggest with the utmost facility, will you have the kindness to

acquaint us as to the manner, and at what time, it will be convenient to lodge the model at your institution ?

We remain, &c. &c.

DANIEL POTTS,
Waterloo Town, Bethnal Green.

HENRY POTTS,
1 Samuel Street, Booth Street, Spitalfields.

W. A. GRAHAM, *Esq.*
Secretary, &c. &c.

The object of this invention is the production of patterns of every variety, in a fabric made of split wicker or cane, and generally used for chair-bottoms, fire-screens, and other light furniture. In the ordinary process of making wicker-bottoms for chairs, prepared threads of wicker (technically termed skeins) are fastened to each side of the seat-frame, by passing the ends round the rails, and tying them underneath; the crossing of the skeins, which give security to the tie, forming an ornamental selvage or border on the upper surface. These being arranged in a parallel series, at distances of about half an inch, they are interwoven as closely as possible with other skeins passed through with a needle from back to front, and tied as before. Figures of the simplest description are occasionally produced by introducing skeins of various colours, but the process, being performed by hand, is tedious and uncertain.

In the loom invented by Messrs. Potts, the figures are produced by means of the Jacquard prism and cards; skeins dyed of various colours being used either in the warp or the shoot. The invention consists, therefore, in such a modification of the lower parts of the loom as to

adapt them to the rigid nature of the material. As the skeins seldom exceed from four to five feet in length, the work is made in square pieces, each of which, when finished, is cut off, the ends of both warp and shoot being left for the purpose of tying on the chair or on any other frame, in the usual manner.

The warp is not wound on the yarn-roll, nor is the finished work wound on the breast-roll, but merely passes over it.

Fig. 1 is a side-view of the loom without the frames in which it is built, and within it is placed the front view fig. 2. The two rollers, A and B, are connected by two endless bands, one at each side of the loom. The front rail c has tenants c c at its ends, by which it is made to slide up and down in the grooves of the frame. The bands are attached to this rail at D D; they then make each $3\frac{1}{2}$ turns round the roller B, from whence they descend along E E to a roller G, round which they take $1\frac{1}{2}$ turns; they then pass horizontally by E E to a similar back-roller H, taking $1\frac{1}{2}$ turns round it and upwards through the frame I I, to the roller A, where they take $3\frac{1}{2}$ turns, and descend again by F into the frame I I, to which they are now fastened, and again pass down through it to the roller H, taking $1\frac{1}{2}$ turns round it, and returning horizontally by F F F to the front bottom-roller G. Here they take $1\frac{1}{2}$ turns, and passing upwards to the rail c, are fastened to its under-side at J J. By this arrangement the frame I I, and the rail c, become links in the endless bands; and as the one must descend through exactly the same quantity of space that the other ascends within the limits of its range in the grooves, the whole warp, the extremities of which are attached to them, may be advanced as the work proceeds, by turning the roller B, while it retains the degree of tension to which it is previously adjusted by means of the screws Q Q. The points of these screws press on the peg-bar P, which slides in the grooves of the side-pieces, and is re-acted on by the springs R R, when the screws are turned back. The whole range of the frame I I, and the rail c in their grooves, is about equal to the length of a square of work, during the progress of which the finished end passes over the breast-roll, and remains vertically extended in front

of the loom. The arrows shew the direction of the bands when the work is moved forwards. The springs in the frame 11 are equal in number to the skeins in the warp. The straight wires which pass through the springs and through the guide-holes in the frame, are attached to the springs at their lower ends. To the eyes at the upper ends of these wires are fastened small cords which are carried upwards over the yarn-roll, and terminate with wire-eyes at L L, to which the skeins of the warp are tied. The opposite ends of the skeins, after being passed through the eyes of the harness and through the reed, are inserted in the holes of the peg-bar P, where each is wedged in and secured by a wooden peg. Thus the springs in the frame 11 supply the warp with the necessary elasticity (in which its material is deficient), for yielding to and returning from the pull of the harness. The warp being set up, the Jacquard machine, worked in the ordinary way, will raise the harness and open the shed at s to receive the wicker-shoot; the harness being returned by the springs at L, which are of the same kind as those of the frame 11.